

FIVE NEW SPECIES AND NEW SYNONYMIES FOR THE GENUS *DERAEOCORIS* (HETEROPTERA: MIRIDAE) FROM WESTERN NORTH AMERICA

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The mirid genus *Deraeocoris* Kirschbaum contains approximately 200 species distributed throughout much of the world. Most species are believed to be predacious on small arthropods and some, like *Deraeocoris brevis* (Uhler), are important predators of economically important insects. The new species described here and the proposed synonymies are the result of a recent study of the *Deraeocoris* of western North America completed as partial fulfillment of the requirements for the Ph.D. degree at Oregon State University by the senior author. Approximately 10,000 specimens were examined, including the relevant type specimens. All measurements are given in millimeters. Institutional abbreviations are given under Acknowledgments.

***Deraeocoris fraserensis* Razafimahatratra and Lattin, new species**

Diagnosis.—Similar in general aspect to *D. validus* (Reuter) but cuneus distinctly red; scutellum dark red; calli not punctate as in *D. poecilus* McAtee; differs from *D. ornatus* Knight in having antennal segment II greater in length than pronotum; male and female genitalia distinctive but showing relationship to *D. validus*.

Male. Length 4.00. Head: Length 0.56, width 0.88, vertex 0.40, dark brown to black, spots on middle of front, along eye margin, on median line and at each side of tylus pale white to yellow; carina of vertex slightly convex, white, trapezoidal shaped; rostrum reaching upon middle coxae. Antennae: Segment I, 0.32, piceous, sparsely pubescent; segment II, 1.04, constricted at base, nearly cylindrical but slightly thicker toward apex, piceous to black, covered with short, dense pubescence and with several erect setae; segment III, 0.40; segment IV, 0.40; last two segments paler, densely pubescent and with erect setae. Pronotum: Length 0.96; anterior angles 0.80; width at base 1.76; uniformly yellow to testaceous, slightly darker on each side of median line, punctures coarse and black, lateral margins of pronotum carinate; calli separated by one deep puncture, piceous to black, latero-anterior angles invaded with pale; area before calli pale white, a few punctures may be present at antero-lateral angles of calli; scutellum reddish brown, lateral

angles, apex and apical half of median line ivory-white, punctures black. Hemelytra: Width 1.92; yellowish testaceous, more or less translucent in one specimen, corium marked with brown at apex and middle; punctures black; cuneus red, darker at apex; membrane clear, apical half and areoles fumate. Legs: Red to piceous; femora with two pale bands near apex, with a row of darker spots on anterior surface; tibiae triannulated with pale; basal segments of tarsi pale; claws, piceous, deeply cleft. Genitalia parameres as in Figure 1; vesica as in Figure 2; both vesica and parameres showing close relationship to *D. validus*.

Female. Similar to male but darker in color and larger in size. Length 4.48; maximum width 2.24. Second antennal segment, 0.96, black, slightly paler at middle, with short pubescence on apical third and with several erect setae, gradually thickening toward apex. Posterior wall of bursa copulatrix as in Figure 3; sclerotized rings as in Figure 4. The female genitalia also show a close relationship to *D. validus*.

Holotype.—Male, Wells, British Columbia, Wendell Park, 8-4-1949, G. J. Spencer, deposited in the collection of the University of British Columbia. Paratypes: One topotypic male; one topotypic female; one male and three females from Quesnel, British Columbia, 6-18-1949, G. J. Spencer (UBC).

The species name, *fraserensis*, has been derived from the name of the type locality of the type series, the Fraser Plateau.

Distribution.—At present, this species is only known from the above localities.

Biology.—One of the specimens from Quesnel bears the label 'on Alder.' *Deraeocoris fraserensis* is structurally related to *D. validus*. Moreover, Quesnel and Wells are located along the Fraser and the Willow Rivers respectively. It is probable that *D. fraserensis* lives on vegetation bordering the Fraser River and its tributaries. It is noted that *D. validus* is found mostly on vegetation bordering streams and lakes, usually on *Salix* sp.

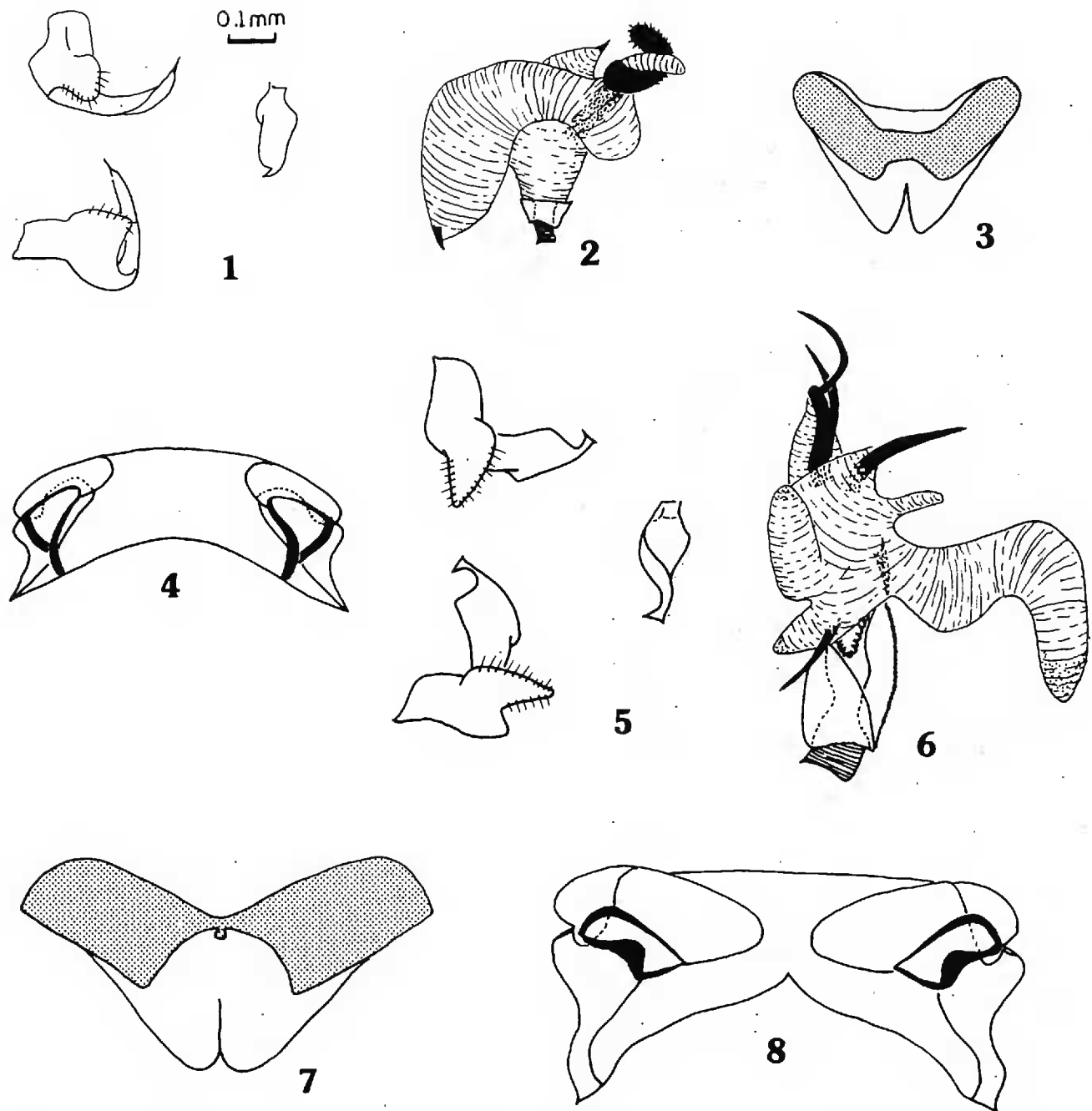
Deraeocoris picipes Knight, new status

Deraeocoris incertus var. *picipes* Knight, 1921:111, 116; Knight, 1927:37.

Deraeocoris incertus var. *carneolus* Knight, 1921:111, 116, NEW SYNONYMY.

Diagnosis.—Very similar to *D. incertus* but larger in size; femora piceous, only pale at very apex; tibiae usually with only one pale band on apical half; genitalia, although related to *D. incertus*, show differences in the left and right claspers and in the sclerotized rings of the female.

Male. Length 5.28–7.02. Head: Length 0.64, width 1.04, vertex 0.32; markings similar to *D. incertus*; dorsal width of an eye greater than vertex. Antennae: Segment I, length 0.40; segment II, 1.76–1.92, piceous to black, nearly cylindrical, covered with dense, short pubescence and with fewer



Figs. 1–8. Figs. 1–4, *Deraeocoris fraserensis*. Fig. 1, claspers. Fig. 2, vesica. Fig. 3, posterior wall of bursa copulatrix. Fig. 4, sclerotized rings. Figs. 5–8, *Deraeocoris cochise*. Fig. 5, claspers. Fig. 6, vesica. Fig. 7, posterior wall of bursa copulatrix. Fig. 8, sclerotized rings.

exserted longer setae; segment III, 0.48; segment IV, 0.40; last two segments piceous, cylindrical, with short pubescence and with a few longer setae. Pronotum: Length 0.96–1.04, anterior angles 0.72, width at base, 1.76; disk of pronotum uniformly piceous, lighter-colored specimens having pale spots behind calli; lateral and basal margins of pronotum narrowly ivory-white, lateral margins more carinate and more sinuate than in *D. incertus*; calli piceous to black, convex, area before calli usually pale; scutellum, punctate, dark brown to piceous black, angles narrowly pale. Hemelytra: Width 2.24; uniformly reddish brown to piceous, translucent in light-colored specimens;

basal area of corium, embolium and clavus pale; cuneus dark brown to piceous, basal one-third pale in light-colored specimens; membrane infuscated except narrowly behind cuneus and areoles, clear. Legs: Reddish brown to piceous; femora narrowly pale at apices; tibiae banded with one pale annulus on apical half, row of spinose setae on anterior face of tibiae; tarsi and claws piceous. Venter: Piceous, covered with golden pubescence. Genitalia: Parameres as in Figure 20, right clasper distinct from that of *D. incertus*, vesica as in Figure 21, closely related to that of *D. incertus*.

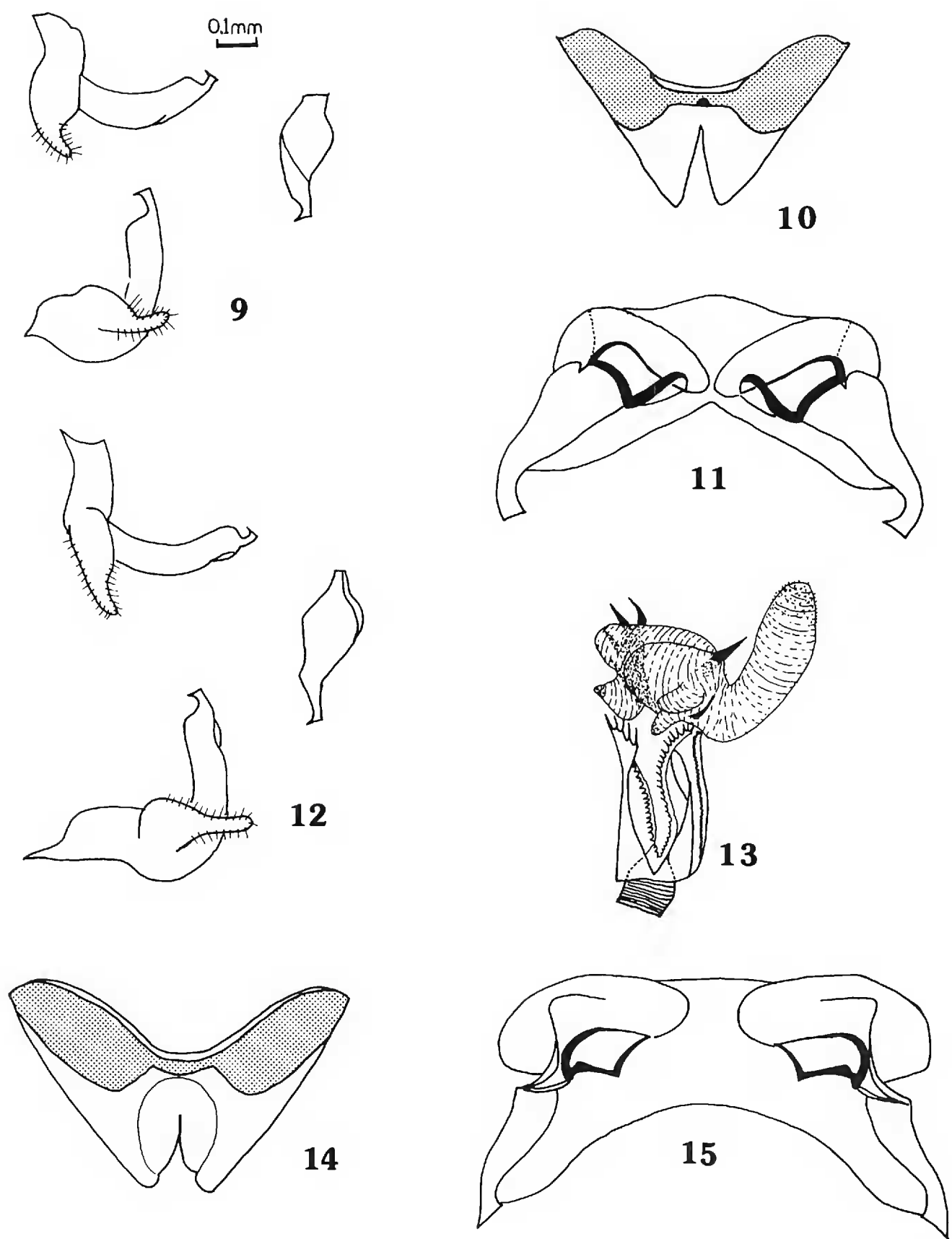
Female. Length 4.96–5.76. Maximum width 2.24–2.48. Second antennal segment, length 1.60, slender, thickening toward apex. More broadly pale, more robust and more ovate than male. Dorsum often tinged with red. Latero-anterior angles of calli invaded with pale. Very similar to *D. incertus* but larger in size, tibiae usually with only one pale annulus; femora narrowly pale at apices. Posterior wall of bursa copulatrix as in Figure 22; sclerotized rings as in Figure 23; genitalia showing close relationship to *D. incertus* but distinct.

Holotype.—Female, Webber's Camp, 7800', Sta. Catalina Mts., Arizona, July 26, H. H. Knight. This specimen is in the U.S. National Museum Collection.

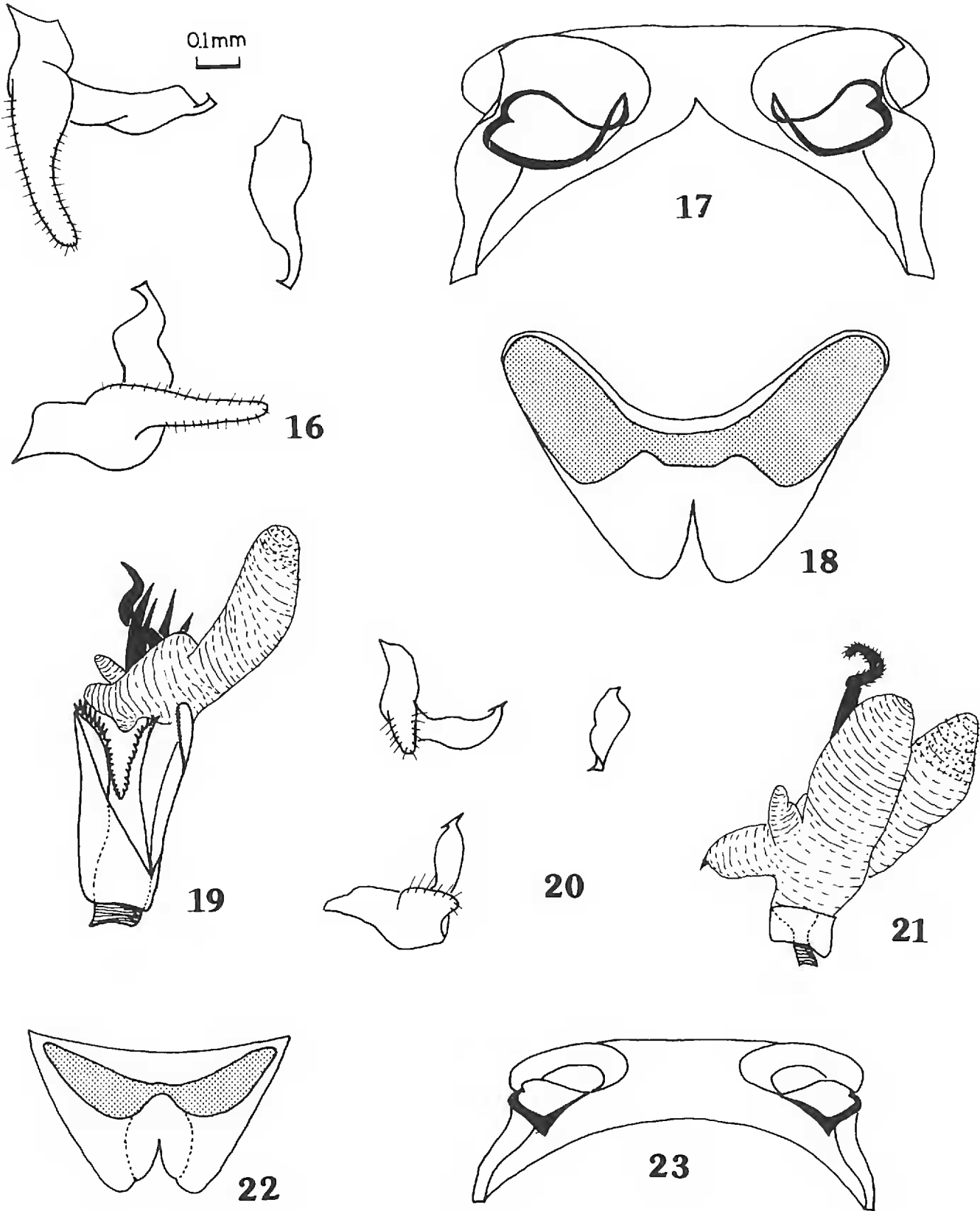
Material examined.—Arizona: *Cochise Co.*: Deer Park, Chiricahua Mts., 8000', 7-7-1927, J. A. Kusche (CAS); S.W.R.S., 5 mi. W Portal, 5400', 7-18-1957, M. Statham (AMNH); Rustler Park, Chiricahua Mts., 8200', 6-22-1955, A. Anderson and M. Statham (AMNH); Huachuca Mts., 8-2-?, H. G. Barber (USNM); Chiricahua Mts., 8-9000', on *Pinus ponderosa*, 8-31-1976, J. D. Pinto (UCR); 7-8-1932, R. H. Beamer (UK). *Coconino Co.*: Flagstaff, 7-27-1936, R. H. Beamer (UK); Williams, 8-4-?, H. H. Knight (USNM). *Graham Co.*: Graham Mts., 7-6-1955, Ordway and Statham (AMNH). Colorado: *Archuleta Co.*: Pagosa Spgs., 6-24-1964, H. R. Burk (TAM). *Larimer Co.*: Pingree Park, 8-8-1925, Beamer and Lawson (UK). *Las Animas Co.*: Trinidad, 9000', 8-8-1925, H. H. Knight (TAM). *Saguache Co.*: 1 mi. E North Pass, 8-19-1969, J. C. Schaffner (TAM). New Mexico: *Catron Co.*: Bursum Camp, 18 mi. E Alma, 9000', 9-11 to 12-1961, R., P. and J. Rindge (AMNH); 2 mi. W La Cueva, 7900', 7-30-1961, F., P. and J. Rindge (AMNH). *Colfax Co.*: 5 mi. E Eagle's Nest, 8-8-1969, J. C. Schaffner (TAM). *Otero Co.*: Cloudcroft, 6-27-1940, R. H. Beamer (UK); 2–3 mi. E Cloudcroft, 1947 (AMNH). *Santa Fe Co.*: 8 mi. E Santa Fe, 8700', Hyde State Park, 7-29-64, F., P. and J. Rindge (AMNH). *Taos Co.*: Sipapu, 9-3-1965, R. G. Jones (USU); Tres Ritos, 9-25-1968, J. C. Schaffner (TAM). *Torrence Co.*: Tajique, 6-28-1947, R. H. Beamer (UK). Utah: *Beaver Co.*: Beaver, 6-23-1966, G. F. Knowlton (USU).

Material illustrated.—Male, Cloudcroft, New Mexico, 6-27-1940, R. H. Beamer (UK); female, Flagstaff, Arizona, 7-27-1936, R. H. Beamer (UK).

Distribution.—*Deraeocoris picipes* is only found in the southern parts of



Figs. 9–15. Figs. 9–11, *Deraeocoris gilensis*. Fig. 9, claspers. Fig. 10, posterior wall of bursa copulatrix. Fig. 11, sclerotized rings. Figs. 12–15, *Deraeocoris knightonius*. Fig. 12, claspers. Fig. 13, vesica. Fig. 14, posterior wall of bursa copulatrix. Fig. 15, sclerotized rings.



Figs. 16–23. Figs. 16–19, *Deraeocoris schuhi*. Fig. 16, claspers. Fig. 17, sclerotized rings. Fig. 18, posterior wall of bursa copulatrix. Fig. 19, vesica. Figs. 20–23, *Deraeocoris picipes*. Fig. 20, claspers. Fig. 21, vesica. Fig. 22, posterior wall of bursa copulatrix. Fig. 23, sclerotized rings.

the Rocky Mountains, in Utah, Colorado, Arizona, New Mexico and probably in Mexico.

Biology.—The habits of this species are not known. Collection records indicate that it may have only one generation per year and that it overwinters in the egg state. *D. picipes* is known to breed on conifers: *Pinus ponderosa* Dougl., *Picea* sp. and *Pseudotsuga menziesii* var. *glauca* (Beissn.) Franco.

Deraeocoris picipes was described by Knight (1921) as a variety of *D. incertus*. It is elevated to the species level because it differs from *D. incertus* chiefly in the genital structure and in size. The variety *carneolus* Knight of *D. incertus* does not differ structurally from *D. picipes*. It appears to be only the light color form of the latter and should not be given taxonomic rank.

***Deraeocoris cochise* Razafimahatratra and Lattin, new species**

Diagnosis.—Dorsum pale yellow, nearly glabrous; hemelytra translucent; scutellum impunctate; legs uniformly pale yellow; claws deeply cleft near bases; genitalia distinctive for the species.

Male. Length 5.92. Head: Length 0.80, width 1.04, vertex 0.48, pale yellow, median line of front, carina and spot near margin of eye ivory-white; narrow spot between anterior margin of eye and antennal base, dark brown; carina slightly carinate; collum pale yellow, brown on sides; rostrum reaching upon middle coxae. Antennae: Segment I, length 0.48, pale yellowish with erect setae; segment II, 1.36, nearly cylindrical but more slender base, pale yellow, black at apex, covered with short pubescence and a longer erect setae; segment III, 0.54; segment IV, 0.40; last two segments pale yellow covered with short pubescence and longer erect setae. Pronotum: Length 1.28, anterior angles 0.36, width at base 2.16; pale yellowish only slightly darker on each side of median line and behind calli, coarsely punctuate, with short and sparse pubescence near lateral margins; lateral margins nearly straight, slightly carinate; calli slightly convex, confluent, smooth, largely pale yellowish, anterior and posterior margins irregularly delimited by heavy black lines, transverse spot inside each callus and spots at their latero-anterior angles, dark brown or black; two deep punctures present at middle of posterior margin of calli; scutellum, impunctate, convex, pale to ivory-white, spots on each side of median line, dark brown. Hemelytra: Width 2.48, uniformly pale yellowish, translucent, punctures fine, yellowish brown, cuneus pale, translucent; membrane pale, translucent. Legs: Pale yellow; femora with long erect setae on ventral side; tibiae only slightly brownish at apex covered, beset with long setae; claws cleft near bases. Venter: Brownish yellow and tinged with reddish, covered with semi-erect setae. Genitalia: Parameres as in Figure 5; vesica as in Figure 6.

Female. Length 6.22, width 2.88. Very similar in general appearance to male but more robust and more ovate. Second antennal segment, length

1.28, pale yellowish and slender, apical one-fifth thicker and brown. Genitalia as in Figures 7 and 8.

Holotype.—Male, Cochise Co., Arizona, vicinity of Portal, 1500–1700 meters, May 20, 1978, on *Quercus oblongifolia* Torr., R. T. Schuh; deposited in American Museum of Natural History, New York. Allotype: Female, same data as holotype. Paratypes: 120 males and females, collected on the same date and at the same location as the types by R. T. Schuh (AMNH). Other specimens examined: Molino Basin, Mt. Lemon, Arizona, V-19-1953, A. and H. Dietrich (CU); Arizona, Cornell University Lot 34' (CU).

This species is closely related to *D. hyalinus*, described by Carvalho and Schaffner (1973) from Mexico. It differs from the latter by the following characters: vertex of front devoid of black spots; length of first antennal segment equal to width of vertex; scutellum having two black spots on each side of median line; embolium distinctly punctate, although punctures are often concolorous; genital claspers very distinct from that of *D. hyalinus*.

According to R. T. Schuh, this species is very abundant on oak at the type locality. However, at present, its biology is not known.

The sensory lobe of the left clasper on some of the paratypes is shorter than that of the holotype. This species resembles closely *D. knightonius* which occurs in California and Oregon but they are easily separated by the genital structures.

***Deraeocoris schuhi* Razafimahatratra and Lattin, new species**

Diagnosis.—Dorsum largely pale yellowish brown; calli with dark brown and red impression; scutellum dark brown, transversally rugose, lateral angles, apex and apical half of median line pale yellow; wings of male long; membrane of female barely surpassing tip of abdomen; sensory lobe of left clasper very elongate; related to *D. piceicola* Knight and *D. navajo* Knight.

Male. Length 6.24. Head: Length 0.80, width 1.12, vertex 0.48; pale yellowish, longitudinal spots along margin of eye, on each side of tylus, on juga, on lorae and bucculae, and row of transversal spots on each side of median line of front, red; front moderately convex; rostrum reaching middle coxae. Antennae: Segment I, length 0.48, pale yellow; segment II, 1.60, nearly cylindrical, basal one-fourth narrower, densely pubescent, beset with several erect setae, dark brown, paler at base; segment III, 0.56; segment IV, 0.48; last two brown, pale pubescent and beset with long erect setae. Pronotum: Length 1.36, anterior width 0.96, posterior width 2.40; disk, densely and coarsely punctate, pale yellowish brown, darker along posterior margin, pubescence short; pronotal collar, pale, pruinose; calli moderately convex, dark brown, outlined with red, antero-lateral angles invaded by pale, ray from posterior margin of each callus curving posteriorly and anteriorly to anterior margin of pronotum, each callus separated by two deep punctures; area between and before calli pale; posterior half of pronotal margin distinctly

carinate; ostiolar peritreme white, tinged with red; scutellum dark brown, lateral angles, apex and apical half of median line pale, transversely rugose, shortly and sparsely pubescent. Hemelytra: Width 2.72; embolar margin nearly parallel; short pubescence, pale yellowish, translucent apex of clavus, apex and middle of corium and along claval suture, dark brown; cuneus concolorous with corium, apical half, dark reddish brown; membrane infuscated, veins reddish brown. Legs: Yellowish brown; femora biannulate with dark red on apical half; tibiae triannulate with dark red, beset with long prominent setae; tarsi darker at apices; claws slender, not cleft at base. Venter: Piceous. Genitalia: Claspers as in Figure 16, sensory lobe of left clasper very elongate; vesica as in Figure 17, related to *D. piceicola*.

Female. Length 5.60, width 2.76. Similar to male but paler in coloration and more ovate. Second antennal segment, length 1.60, slender, apical one-fourth thicker, pale yellow, brown near apex; calli and scutellum more broadly pale; membrane barely surpassing tip of abdomen. Posterior wall as in Figure 18, distinctive for the species; sclerotized rings as in Figure 19.

Holotype.—Male, 9 mi. E Shasta City, California, on *Abies magnifica* var. *shastensis* Lemmon, August 8, 1956, J. Schuh; deposited in the California Academy of Sciences. Paratypes: Two males and eight females taken with the types (OSU); one male, Plaskett Meadows, Glenn Co., California, 6000', 7-27-1960, H. B. Leech (CAS); one female, Martin Springs, Lassen Co., California, 7-31-1922, J. O. Martin (CAS); one male, Haskell Creek, Sierra Co., at light, 8-18-1971, S. Frommer (UCR); one male, Biledo Meadow, Madera Co., 7-27-1946, R. L. Usinger (UCB).

This species is named after the late Mr. J. Schuh, Klamath Falls, Oregon, who collected the type series of this species.

Deraeocoris schuhi is one of the most difficult species of the genus because of its coloration and form. This species is distributed widely in northern California. It may occur also in southern Oregon.

***Deraeocoris gilensis* Razafimahatratra and Lattin, new species**

Diagnosis.—Closely related to *D. vanduzeei* Knight, but setae on dorsum, antennae and legs denser and distinctly longer; punctures on dorsum sparser, except for cluster of punctures behind calli; male genitalia similar to but distinct from that of *D. vanduzeei*, female genitalia distinctive for the species.

Male. Length 4.64. Head: Length 0.64, width 0.96, vertex 0.48; pale yellowish; front more convex than in *D. vanduzeei*; pubescence longer; posterior margin of vertex more sinuate; rostrum reaching hind margins of middle coxae. Antennae: Segment I, length 0.40, pale yellow; segment II, 1.12, gradually thickening toward apex, pale yellowish, slightly darker at apex, covered with long erect setae, length reaching three times greatest thickness of segment; segment III, 0.48, pale yellow; segment IV, 0.40, pale brown. Pronotum: Length 1.12, anterior width 0.96, posterior width 2.00, very

similar to *D. vanduzeei*, pale yellow, darker on posterior half of disk; punctures deeper than in *D. vanduzeei*; cluster of deep punctures behind calli; calli as in *D. vanduzeei*, pair of punctures separating calli more widely separated; setae of pronotal disk distinctly longer; scutellum pale yellow, spots on each side of median line black, with dense and long setae. Hemelytra: Width 2.30, pale yellow, black punctate, punctures deeper and more sparse, setae longer than in *D. vanduzeei*; spots at middle of corium, at apices of embolium clavus and corium brown, translucent; cuneus, pale, apical one-third and basal margin black; membrane infuscated, veins darker. Legs: Pale yellow, densely clothed with long erect setae, distinctly longer than in *D. vanduzeei*; femora with two red bands near apices; tibiae with three reddish bands, apical band paler, setae on tibiae reaching in length twice the thickness of article; claws deeply cleft. Venter: Reddish, pale near sides. Genitalia claspers as in Figure 9, sensory lobe of left clasper distinct from that of *D. vanduzeei*; vesica not illustrated, related to that of *D. vanduzeei* but different in the shape of the spicules (the vesica of the male did not inflate).

Female. Length 4.88; maximum width 2.56; segment II of antennae, length 1.20; very similar to male but slightly large in size. Posterior wall of bursa copulatrix as in Figure 10, sclerotized rings as in Figure 11, distinct from those of *D. vanduzeei*.

Holotype: Male, Gila Co., 2 mi. W Miami, Arizona, 3800' elev., on oak, 5-4-1979, J. D. Pinto and E. M. Fisher; deposited in the collection of the University of California, Riverside. *Paratypes*: One female and three males with same data as the type (UCR); three males from Molino Basin, Mt. Lemmon, Arizona, 5-19-1953, A. and H. Dietrich (CU).

Like *D. vanduzeei*, this species lives on oak. The above specimens have been compared to the holotype of *D. vanduzeei* which was in the possession of the authors at the time of the writing of this description.

The head of some of the paratypes are marked with brownish as in *D. comanche*.

The species name *gilensis* is derived from the name of Gila County, the type locality.

***Deraeocoris knightonius* Razafimahatratra and Lattin, new species**

Deraeocoris cerachates, sensu Knight, 1921:187, nec Uhler, 1894:265.

Diagnosis.—More elongate in form than *D. cerachates* Uhler; dorsum, especially the pronotum, very coarsely punctate; with short and sparse pubescence, except near anterior margin of pronotum where a few longer setae are present; calli more convex than in *D. cerachates*.

Male. Length 5.76–6.72. Head: Length 0.80, width 0.96–1.12, vertex 0.48–0.56; pale yellowish, marked brown or dark brown on sides and base of tylus, on each side of median line on front, along eye margin and on each

side of median line of vertex; front moderately convex; lorae and genae marked with reddish to blackish brown; rostrum reaching upon middle coxae. Antennae: Segment I, length 0.48–0.56, pale brownish; segment II, 1.44–1.76, pale yellowish, apical one-fourth infuscated, slender, thickening toward apex, clothed with pale pubescence and longer setae; segment III, 0.64; segment IV, 0.48. Pronotum: Length 1.12–1.52, anterior width 0.96–1.12, posterior width 1.92–2.40; disk deeply and more coarsely punctate than *D. cerachates*, with sparse and short pubescence, few long setae often present on anterior angles and lateral margins; pale yellowish to rich brownish, posterior half-brown to dark brown, median line pale; lateral margins slightly concave when viewed from above, posterior half carinate; calli distinctly convex, heavily outlined with brown or black as in *D. cerachates*; scutellum moderately convex, pale to ivory-white, often brownish to black on each side of median line. Hemelytra: Width 2.40–3.04; pale yellow, corium, clavus, and embolium irregularly brown, dark coloration spreading from punctures, pubescence sparse and shorter than in *D. cerachates*; cuneus pale, often narrowly at apex and along basal margin brown; membrane slightly infuscated, sometimes darker on apical half; veins dark brown. Legs: Pale yellow, covered with long setae as in *D. cerachates*; femora slightly brownish on apical half; tibiae slightly brownish at apex, not very distinctly banded with brown at middle, claws deeply cleft. Genitalia: Claspers as in Figure 12, vesica as in Figure 13, showing close relationship to *D. cerachates*. Venter: Brownish and marked with piceous, pale pubescent.

Female. Length 5.44–6.72, maximum width 2.40–3.20; segment II of antennae 1.44–1.76, very similar to the male in size and coloration. Genitalia: Posterior wall as in Figure 14, sclerotized rings as in Figure 15.

Holotype.—Male, June 9, Santa Cruz County, California, 600 feet, W. M. Gifford; deposited in the California Academy of Sciences.

Paratypes, 40 males and females from the following localities. —California: *Alameda Co.*: two females, Oakland Hills, 5-26-1928, R. L. Usinger (UCB); two males, one female, Leona Heights, 5-15-1933, R. H. Beamer (UK). *Fresno Co.*: one male, Fresno, 5-6-1979, E. L. Paddock (CDFA). *Inyo Co.*: three males, Lone Pine, on alder, 6-8-1929, E. P. Van Duzee (CAS); one female, Bishop, 6-20-1929, R. L. Usinger (CAS). *Calaveras Co.*: one male, Angels Camp, 5-22-1930, E. P. Van Duzee. *Eldorado Co.*: one specimen, Alpine Creek, near Tahoe, 7-30-1925, E. P. Van Duzee (CAS). *Mariposa Co.*: one specimen, Yosemite, 3880–4000', 5-22-1931, R. L. Usinger (UCB). *Riverside Co.*: five males, Soboda Spgs., 5-30-1917, E. P. Van Duzee (CAS). *San Bernadino Co.*: five females, Mill Creek, 9-22-1923, E. P. Van Duzee (CAS); three females, Mill Creek, 6000' on *Alnus rhombifolia* Nutt., 7-26-1947, Timberlake (UCR). *Santa Barbara Co.*: one specimen, 3 mi. N Refugio Beach, 6-21-1965, G. A. Gorelick (UCB). *San Mateo Co.*: one female, Pescadero, 6-15-1917, C. L. Fox (CAS). *Tuolumne Co.*: two males, two females,

Bear River, 5-17-1930, E. P. Van Duzee (CAS); one male, one female, Tuolumne Co., on *Artemesia*, 7-22-1975, Bingham (CDFA). Oregon: *Benton Co.*: one male, Lobster Valley, on *Alnus*, 7-23-1977, J. D. Lattin (OSU). *Jackson Co.*: one male, Carberry Creek, 7-8-1962, J. D. Vertrees (AMNH). *Klamath Co.*: one female, 11 mi. NE Bly, 5000', 8-14-1975, Schuh and Denning (AMNH); three males, one female, Sand Creek, on *Alnus*, 7-31-1956, J. Schuh (OSU).

Distribution.—This species is known from California and Oregon. It has a more northern distribution than *D. cerachates*.

Biology.—The adults of this species are collected from May to September. It is known to breed on *Alnus* sp., and *A. rhombifolia* Nutt.

This species was thought by H. H. Knight (1921) to be Uhler's *D. cerachates* because he had not seen Uhler's type himself. He asked E. P. Van Duzee to compare a male specimen with Uhler's type. The latter declared them identical. In fact, they are different in the structure of pronotum, hairiness and in general appearance. *Deraeocoris cerachates* is ovate in form and distinctly pilose while the specimens described by Knight as "*cerachates*" are rather elongate and not conspicuously hairy.

Deraeocoris incertus Knight

Deraeocoris incertus Knight, 1921:114.

Deraeocoris rufusculus Knight, 1921:116, NEW SYNONYMY.

Deraeocoris incertus and *D. rufusculus* were described by H. H. Knight from specimens collected by A. A. Nichol in Portland, Oregon. The authors have examined the types of these taxa and find no differences in the parameres and that both have exerted setae on the second antennal segment. *Deraeocoris rufusculus* is only the dark color form of *D. incertus*. These color forms are often found in the same local populations.

Deraeocoris fulvescens (Reuter)

Camptobrochis (Euarmosus) fulvescens Reuter, 1909:53, 56.

Deraeocoris fulvescens, Knight, 1921:167.

Deraeocoris pilosus Knight, 1921:169, NEW SYNONYMY.

The specimens described by H. H. Knight as *D. pilosus* do not show any structural difference from *D. fulvescens*. The genitalia of these two taxa are identical in structure. *Deraeocoris pilosus* is believed to be only the light color form of *D. fulvescens*.

Deraeocoris cerachates Uhler

Deraeocoris cerachates Uhler, 1894:265.

Deraeocoris californicus Knight, 1921:185, NEW SYNONYMY.

The authors have compared the types of these taxa and find them to be identical. The specimen which is believed to be Uhler's type is in the collection of the California Academy of Sciences. This specimen bears the following labels: San Jose del Cabo, female, *Deraeocoris cerachates* Uhler.

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Footnote

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